

FIGURE 1

1/1	31/11
GAC GAA AGG GCC TCG TGA TAC GCC TAT TTT	TAT AGG TTA ATG TCA TGA TAA TAA TGG TTT
61/21	91/31
CTT AGA CGT CAG GTG GCA CTT TTC GGG GAA	ATG TGC GCG GAA CCC CTA TTT GTT TAT TTT
121/41	151/51
TCT AAA TAC ATT CAA ATA TGT ATC CGC TCA	TGA GAC AAT AAC CCT GAT AAA TGC TTC AAT
181/61	211/71
AAT ATT GAA AAA GGA AGA GTA TGA GTA TTC	AAC ATT TCC GTG TCG CCC TTA TTC CCT TTT
241/81	271/91
TTG CGG CAT TTT GCC TTC CTG TTT TTG CTC	ACC CAG AAA CGC TGG TGA AAG TAA AAG ATG
301/101	331/111
CTG AAG ATC AGT TGG GTG CAC GAG TGG GTT	ACA TCG AAC TGG ATC TCA ACA GCG GTA AGA
361/121	391/131
TCC TTG AGA GTT TTC GCC CCG AAG AAC GTT	TTC CAA TGA TGA GCA CTT TTA AAG TTC TGC
421/141	451/151
TAT GTG GCG CGG TAT TAT CCC GTA TTG ACG	CCG GGC AAG AGC AAC TCG GTC GCC GCA TAC
481/161	511/171
ACT ATT CTC AGA ATG ACT TGG TTG AGT ACT	CAC CAG TCA CAG AAA AGC ATC TTA CGG ATG
541/181	571/191
GCA TGA CAG TAA GAG AAT TAT GCA GTG CTG	CCA TAA CCA TGA GTG ATA ACA CTG CCG CCA
601/201	631/211
ACT TAC TTC TGA CAA CGA TCG GAG GAC CGA	AGG AGC TAA CCG CTT TTT TGC ACA ACA TGG
661/221	691/231
GGG ATC ATG TAA CTC GCC TTG ATC GTT GGG	AAC CGG AGC TGA ATG AAG CCA TAC CAA ACG
721/241	751/251
ACG AGC GTG ACA CCA CGA TGC CTG TAG CAA	TGG CAA CAA CGT TGC GCA AAC TAT TAA CTG
781/261	811/271
GCG AAC TAC TTA CTC TAG CTT CCC GGC AAC	AAT TAA TAG ACT GGA TGG AGG CCG ATA AAG
841/281	871/291
TTG CAG GAC CAC TTC TGC GCT CGG CCC TTC	CGG CTG GCT GGT TTA TTG CTG ATA AAT CTG
901/301	931/311
GAG CCG GTG AGC GTG GGT CTC GCG GTA TCA	TTG CAG CAC TGG GGC CAG ATG GTA AGC CCT
961/321	991/331
CCC GTA TCG TAG TTA TCT ACA CGA CGG GGA	GTC AGG CAA CTA TGG ATG AAC GAA ATA GAC
1021/341	1051/351
AGA TCG CTG AGA TAG GTG CCT CAC TGA TTA	AGC ATT GGT AAC TGT CAG ACC AAG TTT ACT
1081/361	1111/371
CAT ATA TAC TTT AGA TTG ATT TAA AAC TTC	ATT TTT AAT TTA AAA GGA TCT AGG TGA AGA
1141/381	1171/391
TCC TTT TTG ATA ATC TCA TGA CCA AAA TCC	CTT AAC GTG AGT TTT CGT TCC ACT GAG GGT
1201/401	1231/411
CAG ACC CCG TAG AAA AGA TCA AAG GAT CTT	CTT GAG ATC CTT TTT TTC TGC GCG TAA TCT
1261/421	1291/431
GCT GCT TGC AAA CAA AAA AAC CAC CGC TAC	CAG CGG TGG TTT GTT TGC CCG ATC AAG AGC
1321/441	1351/451
TAC CAA CTC TTT TTC CGA AGG TAA CTG GCT	TCA GCA GAG CGC AGA TAC CAA ATA CTG TCC
1381/461	1411/471
TTC TAG TGT AGC CGT AGT TAG GCC ACC ACT	TCA AGA ACT CTG TAG CAC CGC CTA CAT ACC
1441/481	1471/491
TCG CTC TGC TAA TCC TGT TAC CAG TGG CTG	CTG CCA GTG GCG ATA AGT CGT GTC TTA CCG
1501/501	1531/511
GGT TGG ACT CAA GAC GAT AGT TAC CGG ATA	AGG CGC AGC GGT CGG GCT GAA CGG GGG GTT
1561/521	1591/531
CGT GCA CAC AGC CCA GCT TGG AGC GAA CGA	CCT ACA CCG AAC TGA GAT ACC TAC AGC GTG
1621/541	1651/551
AGC TAT GAG AAA GCG CCA CGC TTC CCG AAG	GGA GAA AGG CGG ACA GGT ATC CGG TAA GCG

FIGURE 2A

1681/561
 GCA GGG TCG GAA CAG GAG AGC GCA CGA GGG AGC TTC CAG GGG GAA ACG CCT GGT ATC TTT
 1741/581
 ATA GTC CTG TCG GGT TTC GCC ACC TCT GAC TTG AGC GTC GAT TTT TGT GAT GCT CGT CAG
 1801/601
 GGG GGC GGA GCC TAT GGA AAA ACG CCA GCA ACG CGG CCT TTT TAC GGT TCC TGG CCT TTT
 1861/621
 GCT GGC CTT TTG CTC ACA TGT TCT TTC CTG CGT TAT CCC CTG ATT CTG TGG ATA ACC GTA
 1921/641
 TTA CCG CCT TTG AGT GAG CTG ATA CCG CTC GCC GCA GCC GAA CGA CCG AGC GCA GCG AGT
 leu pro pro leu ser glu leu ile pro leu ala ala ala glu arg pro ser ala ala ser
 1981/661
 CAG TGA GCG AGG AAG CGG AAG AGC GCC CAA TAC GCA AAC CGC CTC TCC CCG CGC GTT GGC
 gln OPA ala arg lys arg lys ser ala gln tyr ala asn arg leu ser pro arg val gly
 2041/681
 CGA TTC ATT AAT GCA GCT GGC ACG ACA GGT TTC CCG ACT GGA AAG CGG GCA GTG AGC GCA
 arg phe ile asn ala ala gly thr thr gly phe pro thr gly lys arg ala val ser ala
 2101/701
 ACG CAA TTA ATG TGA GTT AGC TCA CTC ATT AGG CAC CCC AGG CTT TAC ACT TTA TGC TTC
 2161/721
 CGG CTC GTA TGT TGT GTG GAA TTG TGA GCG GAT AAC AAT TTC ACA CAG GAA ACA GCT atg
 met
 2221/741
 acc atg att acg cca agc ttg AAG GAT CAT CTC ATC CAC AAT GTC CAC AAA GAG GAG CAC
 thr met ile thr pro ser leu lys asp his leu ile his asn val his lys glu glu his
 2281/761
 GCT CAT GCC CAC AAC AAG ATC GAT att gtc gga gga agt gac tcc aga gaa gga gcc tgg
 ala his ala his asn lys ile asp ile val gly gly ser asp ser arg glu gly ala trp
 2341/781
 cct tgg gtc gtt gct ctg tat ttc gac gat caa cag gtc tgc gga gct tct ctg gtg agc
 pro trp val val ala leu tyr phe asp asp gln gln val cys gly ala ser leu val ser
 2401/801
 agg gat tgg ctg gtg tgc gcc gcc cac tgc gtg tac ggg aga aat atg gag ccg tct aag
 arg asp trp leu val ser ala ala his cys val tyr gly arg asn met glu pro ser lys
 2461/821
 tgg aaa gca gtg cta ggc ctg cat atg gca tca aat ctg act tct cct cag ata gaa act
 trp lys ala val leu gly leu his met ala ser asn leu thr ser pro gln ile glu thr
 2521/841
 agg ttg att gac caa att gtc ata aac cca cac tac aat aaa cgg aga aag aac aat gac
 arg leu ile asp gln ile val ile asn pro his tyr asn lys arg arg lys asn asn asp
 2581/861
 att gcc atg atg cat ctt gaa atg aaa gtg aac tac aca gat tat ata cag cct att tgt
 ile ala met met his leu glu met lys val asn tyr thr asp tyr ile gln pro ile cys
 2641/881
 tta cca gaa gaa aat caa gtt ttt ccc cca gga aga att tgt tct att gct ggc tgg ggg
 leu pro glu glu asn gln val phe pro pro gly arg ile cys ser ile ala gly trp gly
 2701/901
 gca ctt ata tat caa ggt tct act gca gac gta ctg caa gaa gct gac gtt ccc ctt cta
 ala leu ile tyr gln gly ser thr ala asp val leu gln glu ala asp val pro leu leu
 2761/921
 tca aat gag aaa tgt caa caa cag atg cca gaa tat aac att acg gaa aat atg gtg tgt
 ser asn glu lys cys gln gln gln met pro glu tyr asn ile thr glu asn met val cys
 2821/941
 gca ggc tat gaa gca gga ggg gta gat tct tgt cag ggg gat tca ggc gga cca ctc atg
 ala gly tyr glu ala gly gly val asp ser cys gln gly asp ser gly gly pro leu met
 2881/961
 tgc caa gaa aac aac aga tgg ctc ctg gct ggc gtg acg tca ttt gga tat caa tgt gca
 cys gln glu asn asn arg trp leu leu ala gly val thr ser phe gly tyr gln cys ala
 2941/981
 ctg cct aat cgc cca ggg gtg tat gcc cgg gtc cca agy ttc aca gag tgg ata caa agt
 leu pro asn arg pro gly val tyr ala arg val pro arg phe thr glu trp ile gln ser
 3001/1001
 ttt cta cat GAG CTC GTA ATT AGC TGA GAA TTC ACT GGC CGT CGT TTT ACA ACG TCG TGA
 phe leu his glu leu val ile ser OPA glu phe thr gly arg arg phe thr thr ser OPA

FIGURE 2B

3061/1021	3091/1031
CTG GGA AAA CCC TGG CGT TAC CCA ACT TAA	TCG CCT TGC AGC ACA TCC CCC TTT CGC CAG
3121/1041	3151/1051
CTG GCG TAA TAG CGA AGA GGC CCG CAC CGA	TCG CCC TTC CCA ACA GTT GCG CAG CCT GAA
3181/1061	3211/1071
TGG CGA ATG GCG CCT GAT GCG GTA TTT TCT	CCT TAC GCA TCT GTG CGG TAT TTC ACA CCG
3241/1081	3271/1091
CAT ATG GTG CAC TCT CAG TAC AAT CTG CTC	TGA TGC CGC ATA GTT AAG CCA GCC CCG ACA
3301/1101	3331/1111
CCC GCC AAC ACC CGC TGA CGC GCC CTG ACG	GGC TTG TCT GCT CCC GGC ATC CGC TTA CAG
3361/1121	3391/1131
ACA AGC TGT GAC CGT CTC CGG GAG CTG CAT	GTG TCA GAG GTT TTC ACC GTC ATC ACC GAA
3421/1141	
ACG CGC	

FIGURE 2C

Insert 1

1/1 31/11
CAT CTC ATC CAC AAT GTC CAC AAA GAG GAG CAC GCT CAT GCC CAC AAC
his leu ile his asn val his lys glu glu his ala his ala his asn

Insert 2

1/1 31/11
CAT AAC CAT AAC CAT AAC CAT AAC CAT AAC CAT AAC
his asn his asn his asn his asn his asn his asn his asn

Insert 3

1/1 31/11
CAT GAT GAT CAT GAT GAT CAT GAT GAT CAT GAT GAT CAT GAT GAT GAT
his asp asp his asp asp his asp asp his asp asp his asp asp his asp asp

Insert 4

1/1 31/11
CAT GAG GAG CAT GAG GAG CAT GAG GAG CAT GAG GAG CAT GAG GAG CAT GAG GAG
his glu glu his glu glu his glu glu his glu glu his glu glu his glu glu

Insert 5

1/1 31/11
CAT GAT GAG CAT GAT GAG CAT GAG AAC CAT GAG AAC CAT GAG GAT CAT GAG GAT
his asp glu his asp glu his glu asn his glu asn his glu asp his glu asp

FIGURE 3

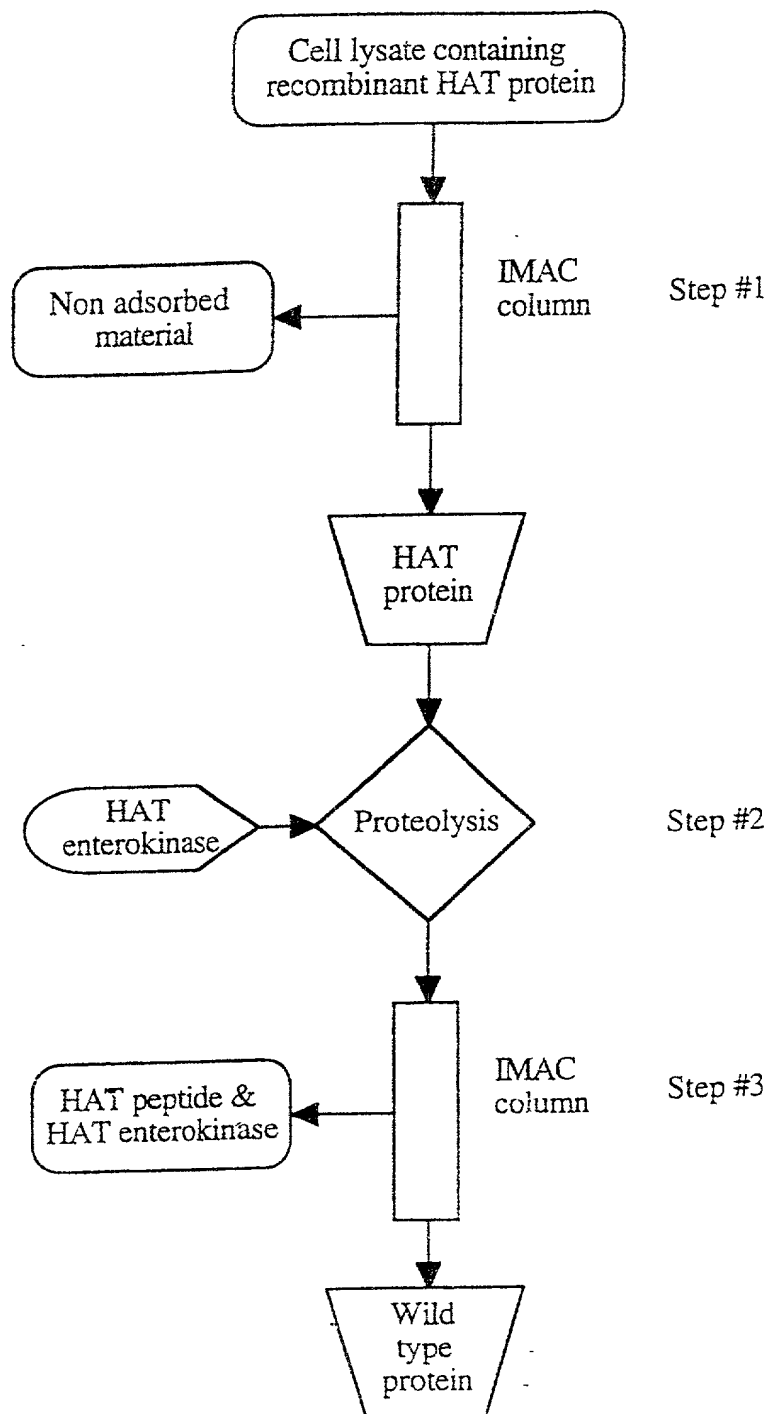
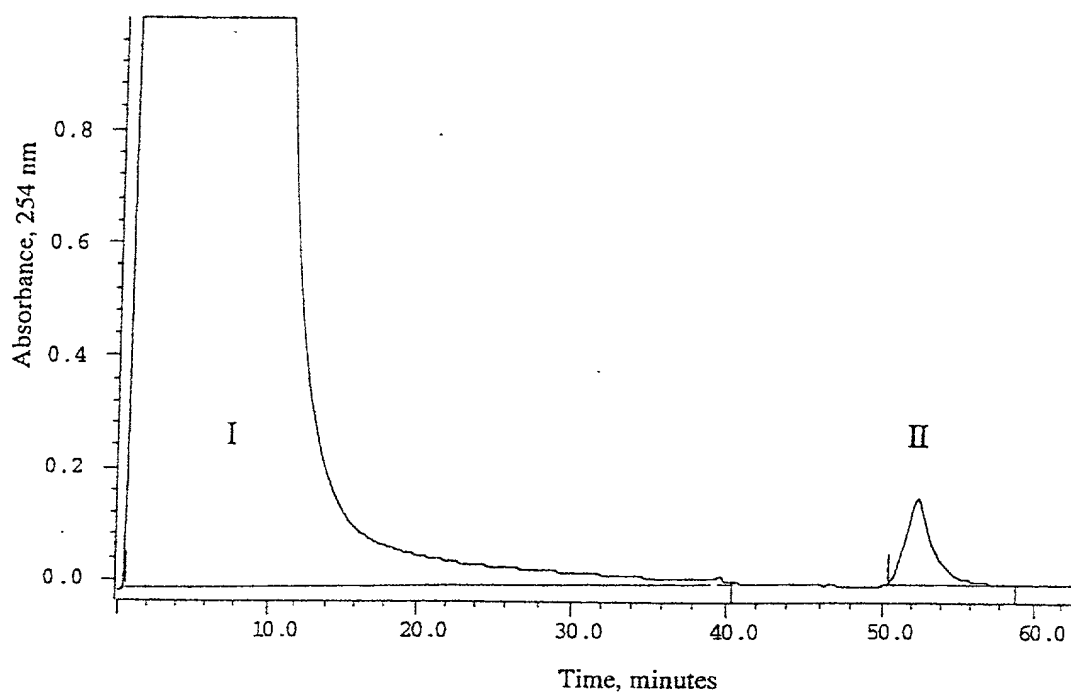


FIGURE 4



Sample: HN6-DHFR expressing E.coli cells (0.54 g) extracted in 4.35 mL of 50 mM sodium phosphate; 0.3 M NaCl; 10 mM imidazole pH 7.0
Column: 3.5 x 1 cm.i.d. Co(II)-carboxymethylaspartate-agarose (Superflow) equilibrated with the extraction buffer
Flow rate: 1 mL per minute (1.25 cm per minute)
Peak I - non adsorbed material
Peak II - HAT-DHFR

FIGURE 5

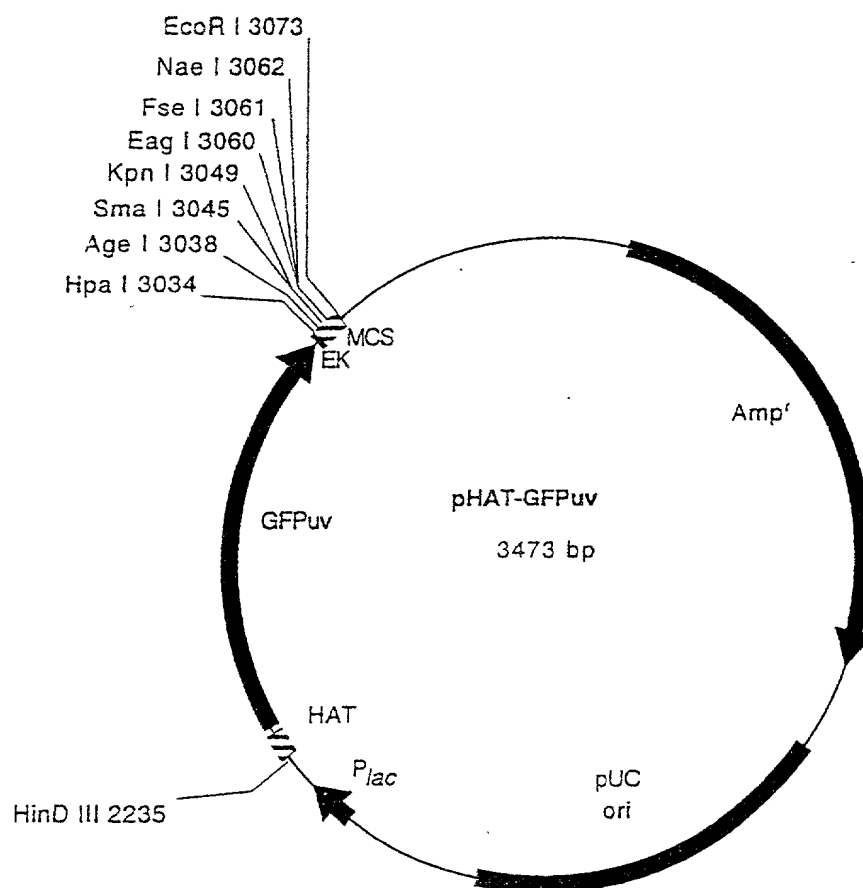


FIGURE 6